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A.D. 1857 . . . . . N° 2486.

Manufacture of Artificial Wine, Vinegar, and Brandy, &c.

LETTERS PATENT to Michael Henry, of 77, Fleet Street, in the City of London, Patent Agent, for the Invention of "IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL WINE, VINEGAR, AND BRANDY, PART OF WHICH IMPROVEMENTS IS APPLICABLE IN THE MANUFACTURE OF BRANDY GENERALLY." —A communication.

Sealed the 5th March 1858, and dated the 26th September 1857.

PROVISIONAL SPECIFICATION left by the said Michael Henry at the Office of the Commissioners of Patents, with his Petition, on the 26th September 1857.

I, MICHAEL HENRY, of 77, Fleet Street, in the City of London, Patent Agent, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL WINE, VINEGAR, AND BRANDY, PART OF WHICH IMPROVEMENTS IS APPLICABLE IN THE MANUFACTURE OF BRANDY GENERALLY," communication to me by a foreigner residing abroad, to be as follows:—

The nature of the said Invention, communicated to me by a foreigner residing abroad, is as follows:—

This Invention has, first, for its object the production of artificial wines and other beverages and vinegar; and, secondly, the improvement of brandies made from natural wines, and other alcoholic liquids.

The Invention, as far as it relates to the manufacture of artificial wines and

beverages, consists in employing for the purpose an artificial wort composed of the constituent elements or ingredients which the Inventor has ascertained by chemical analysis to compose natural grape juice or grape wort, and in submitting such artificial wort to alcoholic fermentation, and then treating it as in the case of natural wines. Certain ingredients may be added to give any desired aroma, "bouquet," or flavor and color. The Inventor manufactures his aforesaid artificial wort of water, sugar of glucose or cane, or beet-root sugars, or other sweet or saccharine matter, bitartrate of potassa, tannin (either pure or in the state of oak bark, or other suitable substance from which it may be obtained), yeast of beer or other yeast, leaven, or ferment capable of developing or keeping up alcoholic fermentation. Coloring matters, such as whortle berries, berries of the uva ursi, or elderberries, or decoction of logwood or Brazil wood, are added to color the beverage, if desired (or this may be effected by the admixture of a natural dark wine); and to give the beverage any desired aroma, "bouquet," or flavor, the Inventor adds to the ingredients a small quantity of elder flowers, Florentine iris, alcohol of raspberry, unripe plums, unripe sorb-tree fruit, or other aromatic or suitable substance, or, for certain aromas or flavors, he adds a small quantity of a vegetable acid (as citric, malic, tartaric, &c.), or a very small proportion of certain soluble salts, such as double tartrate of potass or of iron. This improved beverage may be mixed with natural wines or brandies, and may be rendered effervescing by treating it in a manner similar to champagne, or charging it with gas.

The Inventor manufactures artificial brandy from the improved wine or beverage produced as described in the same manner as brandy is now distilled from natural wine, and he prefers to infuse or add Brazil-wood shavings with the beverage before distillation.

Artificial vinegar is manufactured from the artificial wine produced as described according to any known mode of manufacturing vinegar from natural wines.

This Invention is, so far as it relates to the manufacture of brandies from natural wines or other alcoholic liquids, consists in adding Brazil-wood shavings before, during, or after distillation.

A good brandy may be manufactured from the herein-before described artificial wine combined with a natural wine.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Michael Henry in the Great Seal Patent Office on the 25th March 1858.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, MICHAEL HENRY, of 77, Fleet Street, in the City of London, Patent Agent, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Twenty-sixth day of September, in the year of our Lord One thousand eight hundred and fifty-seven, in the twenty-first year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Michael Henry, Her special licence that I, the said Michael Henry, my executors, administrators, and assigns, or such others as I, the said Michael Henry, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN THE MANUFACTURE OF ARTIFICIAL WINE, VINEGAR, AND BRANDY, PART OF WHICH IMPROVEMENTS IS APPLICABLE IN THE MANUFACTURE OF BRANDY GENERALLY," (communicated to me by a foreigner residing abroad,) upon the condition (amongst others) that I, the said Michael Henry, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Michael Henry, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, as communicated to me, that is to say:—

This Invention relates to the manufacture of artificial wines (or beverages intended as substitutes for natural wines, that is to say, wines made from the grape), also to the manufacture of artificial brandy and vinegar; and part of the Invention refers to a mode of improving brandies generally, whether produced from natural wine or other alcoholic liquid.

Artificial Wines.

The "must" or expressed juice of the grape from which natural wine is made, having been found by chemical analysis to consist of certain constituent elements or ingredients, the Inventor proposes to take such ingredients, and (by combining them together) to form them into an artificial "must" or wort for the production of artificial wine and liquids derivable therefrom; and the Invention (in so far as it refers to artificial wines) consists in manufacturing artificial wines by first preparing an artificial wort or "must," by combining the constituent ingredients found to compose natural grape juice wort or must, and subjecting the same to alcoholic fermentation by the addition thereto of a yeast or ferment, and then treating as in the production of wine from the grape, adding ingredients for giving the required flavor, aroma, or bouquet, and also coloring agents where desirable, introducing in certain cases certain vegetable acids and soluble salts to imitate the flavor or bouquets of particular wines. This artificial wort or must is manufactured of water, glucose, or cane or beet-root sugar, or other saccharine substance, bitartrate of potassa, tannin, either pure or in a state of oak bark, or other substance yielding tannin, to which is added beer yeast or other leaven or ferment capable of inducing or keeping up alcoholic fermentation. Coloring matters, such as bilberries, berries of the uva ursi or elderberries, or decoction of logwood or Brazil wood, may be introduced, or the coloring may be effected by mixing with a natural wine, or it may be altogether dispensed with. The aroma or "bouquet" is imparted by the addition of certain aromatic and flavoring agents (in small quantities), such, for example, as elder flowers, Florentine iris, alcohol of raspberry, unripe plums, and sloes or bullaces, unripe fruit of the mountain ash or sorb tree, &c. For certain "bouquets" or flavors, a small quantity of a vegetable acid, such as malic, formic, citric, tartaric, &c., is added; and for others, a small proportion of certain soluble salts, such as tartrate of potassa, iron, &c., it having been ascertained by analysis of the "musts" that the peculiar flavors of certain natural wines are produced or modified by the presence of such acids or salts.

The respective proportions in which the various ingredients are to be employed in this manufacture, and the selection of the agents for coloring, flavoring, and imparting the aroma or "bouquet" will of course vary according to the particular quality or description of artificial wine to be produced, and must be regulated accordingly.

And in order to imitate any particular wine or growth (in carrying the

Invention into effect), such agents and such proportions are to be adopted as may be found in its particular must, or as may be considered best to produce as complete a resemblance as may be to the wine intended to be simulated.

Wines or beverages produced according to this Invention may be modified by mixture with natural wines and brandies, as, for example, an artificial white wine may be coloured and flavored by combining with a natural red or dark wine.

I now proceed to describe the best means, as communicated to me, for carrying this part of the Invention into effect.

Bitartrate of potassa is first dissolved in cold or warm water, preferably the latter; to this solution are added the glucose or other saccharine matter, and the yeast or other ferment, which must be previously well washed, and such other or others of the before-mentioned ingredients as may be required. The mixture is placed in a convenient vat or vessel, and left to undergo alcoholic fermentation. When this fermentation has ceased, the product is poured off into proper tuns or recipients to complete imperceptible fermentation. At the end of, say, three months, the wine may be drawn off ready for drinking; or, if it is to be kept by, it should be treated like natural wine.

The wine may be rendered sparkling or effervescing by treating it like champagne wine, or it may be aërated or charged with gas in any suitable manner.

By way of example, I propose to mention proper proportions and ingredients for producing a common white wine of one sort:—To 22 gallons water take 35 lbs. glucose, 1 lb. bitartrate of potassa, 3 oz. tartaric acid, 2 lbs. oak bark, 75 grains troy elder flowers. Of course, for other sorts of wine these proportions are to be varied, and other ingredients may be used. Certain inert substances may also be added without sensibly affecting the result.

A superior kind of white wine may be made by increasing the proportion of glucose; for example, doubling it again and again, according to the alcoholic strength to be imparted to the wine, and half the tartaric acid may be dispensed with, and an equivalent of citric acid substituted; for certain wines a small quantity of formic acid may be employed, say about 6 dwts. to 22 gallons of water.

The peculiar flavor and "bouquet" of Spanish wines may be traced to the presence in the must of a small quantity of double tartrate of potassa and iron; hence, in manufacturing artificial beverages intended to imitate the wines of Spain, this substance should be added while fermentation is going on, but in very small proportions, say about 7 grains troy to 22 gallons liquid.

The beverage manufactured as described, and which the Inventor terms

Magonty wine, may be combined, treated, modified, and used, and potable liquids and compounds may be extracted and prepared therefrom, in the same manner as is now done with natural wine.

Artificial Vinegar.

The Invention, in so far as it relates to the manufacture of artificial vinegar, consists in employing for the purpose artificial wine produced as herein-before described, which is converted into vinegar in the same manner as vinegar is now made from natural wines, as, for example, by the processes known in France as the Bordeaux and Orleans methods.

Artificial Brandy.

In respect of this part of the Invention, artificial brandy is manufactured from the artificial wine produced, as described, by distillation, in like manner as brandy is now distilled from natural wine, and the product is improved by the addition or infusion of Brazil wood.

The best mode of carrying this part of the Invention into effect consists in first infusing Brazil wood shavings in the artificial wine, and then distilling it; but preliminary infusion or maceration may be dispensed with, and the shavings merely introduced into the alembic with the wine to be distilled. The proportion of wood should be varied according as a stronger or weaker flavor is required; a good proportion is 2 lbs. wood to 22 gallons wine; but the proportions and mode of operating may be varied as desired.

Good brandies may be produced from a liquid resulting from the combination of an artificial wine made according to this Invention with a natural wine, such as cognac or other sort; and particular flavors or aromas may be obtained by suitably selected mixtures of brandies.

Brandies generally.

The Invention, in so far as regards the manufacture of brandies, whether produced from natural or grape-juice wine or any other alcoholic liquid, consists in employing Brazil wood in such manufacture before, during, or after distillation.

And having now described the nature of the said Invention, and in what manner the same may be carried into effect, as communicated to me, I declare that I claim,—

First, the manufacture of artificial wines or beverages, simulating wines made from grapes of various growths, generally in the manner herein-before described.

Second, the mode of manufacturing artificial wine by combining the

constituent elements of grape-juice wort or must into an artificial wort or must, with the addition of a ferment or yeast, and leaving such artificial wort or must to undergo alcoholic fermentation, and treating it as in the case of natural wine.

Third, the production of wines or beverages by combining artificial wines produced as described with red or other natural wines.

Fourth, the mode of imitating the "bouquets" and flavors of certain natural wines, the produce of the grape, by the employment in the manufacture of artificial wine of small quantities of certain vegetable acids, such as malic, formic, tartaric, citric, &c., and of certain soluble salts, such as tartrate of potassa, &c.

Fifth, the employment for the manufacture of artificial brandy and vinegar of artificial wines, produced as herein-before described, combined or not with natural wines.

And, sixth, the mode of improving the manufacture of brandy, whether produced from artificial wine according to this Invention, or from any other alcoholic liquid, by employing Brazil wood in the manufacture thereof, before, during, or after distillation, as herein-before described.

In witness whereof, I, the said Michael Henry, have hereunto set my hand and seal, this Twenty-fourth day of March, One thousand eight hundred and fifty-eight.

M. HENRY. (L.S.)

Witness,

C. DARBY,

77, Fleet St.

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